NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET
(pursuant to NAC 445A.236)

Permittee Name: Pioneer Americas, Inc.
P.O. Box 86, 8000 West Lake Mead Drive
Henderson, Nevada 89009

Permit Number: NV0020923

Location: Pioneer Americas, Inc.
8000 West Lake Mead Drive, Henderson, Clark County, Nevada
Basic Management Incorporated (BMI) Complex
T22S, R62E, Section 12

Latitude: 36° 02' 44" N
Longitude: 115° 00' 34" W

General Description of Facility and Discharge: The Pioneer Americas, Inc. (formerly known as Pioneer Chlor Alkali Company and also as Stauffer Chlor Alkali Company) plant is located in Henderson, Nevada on the western part of the Basic Management Incorporated (BMI) complex, which houses several major chemical production companies. These companies currently consist of Pioneer Americas, Inc., Kerr-McGee Chemical Corporation, Titanium Metals Corporation of America (TIMET), ChemStar and Saguaro Power Company.

The BMI complex was originally the Basic Magnesium facility which was constructed by the U.S. Government primarily to produce magnesium metal for wartime use in the early 1940's. Stauffer leased and operated the chlorine-caustic soda (chlor-alkali) manufacturing plant from 1946 until 1952. In 1952, Stauffer purchased the plant and 350 surrounding acres. From 1951 to 1984, Stauffer operated the Agricultural Chemicals Division, which manufactured pesticides and organic chemical products at the Henderson site. From 1947 to 1983, Montrose Chemical Company subleased about 20 acres from the Stauffer site to operate an organic chemical plant. In 1988, the ownership of Stauffer Chlor Alkali Company was transferred to Pioneer Chlor Alkali Company, Inc. In 1999, the name of the Company was changed to Pioneer Americas, Inc. (Pioneer).

The Pioneer plant is a typical "chlor-alkali plant" which manufactures chlorine gas, caustic soda, hydrochloric acid and bleach from sodium chloride and water. Products of the facility are shipped via pipeline, rail cars and trucks. Process recyclable waters and neutralized wastewaters are discharged to lined evaporation/containment ponds. A separate permit #NEV2000515 is in process to be issued for these ponds.

Pioneer has a comprehensive system for containment of process materials. The system prevents contamination of stormwater with process materials by using berms, dikes and curbs. Stormwater that falls into the process areas is collected in the containment areas and incorporated into the process.

Stormwater falling into the plant but outside of the containment areas will not come in contact with process chemicals and is collected by surface conveyances and underground piping to the evaporation pond CAPD 7. Pioneer collects stormwater runoff from its plant area and from Saguaro Power Company's plant area.

All stormwater runoff is diverted to CAPD 7 through junction and diversion boxes. The junction and diversion boxes are equipped with slide gates which control flow to the evaporation pond. When gates are closed the stormwater overflows weirs and is discharged through flumes (i.e., outfalls 001 and 002) where it is automatically sampled and the flow is measured. A flow chart showing the locations of the evaporation pond CAPD 7, the

junction and diversion boxes and outfalls 001 and 002 is presented in Attachment A.

Discharge monitoring reports for the last 5-year period indicate that some stormwater runoff was discharged through the outfall only during the storm event of September 11, 1998. About 0.7 inches of rain in a 30-minute period resulted in that day's outfall discharge. Generally, all stormwater runoff from low rainfall events for the area are collected in the evaporation pond CAPD 7.

The following table provides a general description of the evaporation pond CAPD 7.

Impoundment	Application	Liner
Evaporation Pond: **CAPD 7** Surface Area: 130,000 ft²	Receives stormwater runoff from the drainage areas #5 and #6 as shown in Attachment B. Also, receives occasional emergency spills and excess neutralized process wastewaters from the evaporation pond CAPD 9 listed in the permit #NEV2000515. Pioneer catches the first flush of the stormwater (a 2-year 24-hour event) to this pond for evaporation except when the rainfall amount exceeds 0.2 inches and the rainfall rate exceeds 0.1 inches/hour in any rainfall event, in which case runoff may be discharged to an unnamed ditch through outfalls 001 and 002. The pond is dry for most of the year due to naturally low rainfall for the area. Pioneer intends to discontinue the use of this pond by the year 2004-2005 and replace it with pond CAPD 6A listed in the permit #NEV2000515.	PVC double liners with leak detection/collection system. Originally constructed in 1976 with 20 mil PVC primary and 10 mil PVC secondary liners. Pond relined in 1981 with 60 mil HDPE primary and 30 mil HDPE secondary liners.

Because the discharged water through the outfalls consists of stormwater runoff after the rainfall has exceeded both a cumulative and a rate threshold, it is presumed that the more readily soluble pollutants likely to be entrained in surface runoff will have been diverted to the lined evaporation pond CAPD 7 before the thresholds are reached. The stormwater discharges are intermittent and have been very infrequent over the last few years.

In the past, Stauffer and Montrose chemical companies have manufactured organic pesticides at this location. As a result, several organic chemicals (such as aldrin, α-BHC, β-BHC, γ-BHC, δ-BHC, chlordane, 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, dieldrin, α-Endosulfan, β-Endosulfan, endosulfan sulfate, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, PCB-1016, toxaphene and also iron, magnesium and oil and grease) are present in the soils in trace amounts as listed in the permit application (EPA form 2C). Grab samples of impounded stormwater were used for the analysis. The existing permit (expires on January 08, 2002) does not require monitoring of these parameters. The proposed permit will require monitoring and reporting of these parameters annually.

Pioneer has identified six (6) stormwater runoff drainage areas for the entire property (totals of 310.9 acres) as listed below and shown in Attachment B.

1. South Drainage Area #1 of 90.1 acres (discharges through outfall 003 stormwater diversion channel)
2. Stauffer West Drainage Area #2 of 35.8 acres (sheet flow)
3. North West Drainage Area #3 of 73.3 acres (sheet flow)

4. North East Drainage Area #4 of 56.5 acres (sheet flow)
5. Process Drainage Area #5 of 48.5 acres (discharges into CAPD 7 and through outfalls 001 or 002 to LV wash)
6. Saguaro Drainage Area #6 of 6.7 acres (discharges into CAPD 7 and through outfalls 001 or 002 to LV wash)

All stormwater runoff from the drainage areas #1 through #4 shall be controlled by best management practices (BMPs). To guide and document this, Pioneer shall submit *a Stormwater Management Plan for the drainage areas #1 through #4* within six months of the effective date of this permit. The plan shall include the following: (1) site plan drawing showing discharge points, drainage basins, structures, equipment, materials, and areas of known spills, leaks, or clean up activities; (2) monitoring plan for at least four storms per year (if sufficient rainfall occurs) designed to sample the entire storm event so that event mean concentrations can be developed for each discharge point. A broad range of analytical parameters shall be selected to initially include all pollutants that could be present. (3) BMP plan designed to minimize stormwater pollution. The *Stormwater Management Plan* is expected to change over time based on the information developed. A revised plan and report shall be submitted 18 months after the submittal of the Stormwater Management Plan, and on that date every year thereafter.

Receiving Water Characteristics: Generally, most of the permitted stormwater runoff from the *drainage areas #5 and #6* are considered to be zero discharge and collected in the lined evaporation pond CAPD 7. There are few existing ground water monitoring wells (B12, B13, B14 and B15) upgradient and downgradient of the pond CAPD 7 that ensure that operations of the facility do not degrade groundwater of the State. When the rainfall amount exceeds 0.2 inches and the rainfall rate exceeds 0.1 inches/hour in any rainfall event, the discharge enters an unnamed ditch which is tributary to the Las Vegas Wash. The Las Vegas Wash constitutes the only natural drainage reach in the Las Vegas Valley and is used as the receiving stream by all major Las Vegas area dischargers.

The Nevada State Water Quality Regulations (NAC 445A.198) list the most significant beneficial uses of the reach of Las Vegas Wash that lies from Telephone Line Road to confluence of discharges from Clark County and City of Las Vegas wastewater treatment plants as irrigation, watering of livestock, recreation not involving contact with the water, maintenance of a freshwater marsh, propagation of wildlife and propagation of aquatic life, excluding fish.

All stormwater runoff from the drainage areas #1 through #4 shall be controlled by best management practices (BMPs). The permittee shall submit *a Stormwater Management Plan for the drainage areas #1 through #4* within six months of the effective date of this permit.

Flow: CAPD 7: The estimated 30-day average flow of discharge is ‹1,000 gpd.

Proposed Effluent Limitations: The discharge shall be limited and monitored by the permittee as specified below *for drainage areas #5 and #6* only. *If no discharge is made during the quarter, please report as no discharge.* Effluent samples taken in compliance with the monitoring requirements specified below shall be taken at the following locations:

a. at the pond CAPD 7 (if any discharges occur due to emergency spills and/or excess wastewaters from the pond CAPD 9),
b. at the diversion box prior to discharge to the pond CAPD 7, and
c. outfalls 001 and 002.

For *drainage areas #1 through #4*, the permittee shall identify the sample location(s) and monitoring plan in the Stormwater Management Plan.

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS	MONITORING REQUIREMENTS		
		Sample Locations	**Measurement Frequency**	**Sample Type**
Flow, gpd	Monitor & Report	At CAPD 7, At diversion box, Outfalls 001 and 002	Continuous	Pond: Calculate Other areas: Flow Meter or Recorder
pH, standard units	Pond & diversion box: Monitor & Report Outfalls 001 and 002: Within Range 6.5 - 9.0	At CAPD 7, At diversion box, Outfalls 001 and 002	Once per discharge	Discrete
Chlorides, mg/l	Monitor & Report	At CAPD 7, At diversion box	Once per discharge	Discrete
Sulfates, mg/l	Monitor & Report	At CAPD 7, At diversion box	Once per discharge	Discrete
Total Dissolved Solids, mg/l	Pond & diversion box: Monitor & Report Outfalls 001 and 002: Within Range 1900 - 3000	At CAPD 7, At diversion box, Outfalls 001 and 002	Once per discharge	Discrete
Oil and grease, mg/l	Monitor & Report	At diversion box	Once during first storm event	Discrete
Total Iron, mg/l	Monitor & Report	At diversion box	Once during first storm event	Discrete
Total Magnesium, mg/l	Monitor & Report	At diversion box	Once during first storm event	Discrete
Pesticides and PCBs (EPA Method 608) *****	Monitor & Report	At diversion box	Once during first storm event	Discrete
Chemical Oxygen Demand, mg/l	Monitor & Report	Outfalls 001 and 002	Once per discharge	Discrete
Total Organic Carbon, mg/l	Monitor & Report	Outfalls 001 and 002	Once per discharge	Discrete
Total Suspended Solids, mg/l	Monitor & Report	Outfalls 001 and 002	Once per discharge	Discrete
Nitrogen Species as N, mg/l (Total Nitrogen)	≤ 20	Outfalls 001 and 002	Once per discharge	Discrete
Ammonia (as N), mg/l	Monitor & Report	Outfalls 001 and 002	Once per discharge	Discrete
Total Phosphorus, mg/l	Monitor & Report	Outfalls 001 and 002	Once per discharge	Discrete

****** *Parameters shall include aldrin, α-BHC, β-BHC, γ-BHC, δ-BHC, chlordane, 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, dieldrin,*

α-Endosulfan, β-Endosulfan, endosulfan sulfate, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, PCB-1242, PCB-1254, PCB-1221, PCB-1232, PCB-1248, PCB-1260, PCB-1016 and toxaphene.

Groundwater Monitoring Wells: Groundwater monitoring wells (B12, B13, B14 and B15) shall be monitored by the permittee as specified below.

PARAMETER	REQUIREMENTS	FREQUENCY	SAMPLE TYPE
Depth to Groundwater, ft	Monitor & Report	Quarterly	Field Measurement
Groundwater Elevation, ft	Monitor & Report	Quarterly	Calculate
pH, standard units	Monitor & Report	Quarterly	Discrete
Chlorides, mg/l	Monitor & Report	Quarterly	Discrete
Sulfates, mg/l	Monitor & Report	Quarterly	Discrete
Total Dissolved Solids, mg/l	Monitor & Report	Quarterly	Discrete

Groundwater monitoring is required to ensure that operations of the facility do not degrade groundwater of the State. If dry, please report as dry.

Procedures for Public Comment: The Notice of the Division's intent to reissue a permit authorizing the facility to discharge to the surface waters of the State of Nevada subject to the terms and conditions contained within the permit, is being sent to the **Henderson Home News and Las Vegas Review-Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing until April 5, 2001, which is a period of at least 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Schedule of Compliance and Special Conditions: The permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance.

a. The permittee shall achieve compliance with the effluent limitations upon issuance of the permit.

b. The permittee shall submit a report in accordance with permit condition I.B.1.c. within 14 days of a compliance date detailing compliance or noncompliance with that date.

c. **Within 90 days of permit issuance**, the permittee shall submit an updated Operations and Maintenance Manual (O&M) to the Division for review and approval. The O&M Manual shall contain an Evaporation

Pond Management Plan, a Groundwater Monitoring Plan and *a Stormwater Management Plan for drainage areas #5 and #6 only*. A site map shall also be included showing the physical locations of the groundwater monitoring wells.

d. **Within 6 months of permit issuance**, the permittee shall submit *a Stormwater Management Plan for the drainage areas #1 through #4* to the Division for review and approval. The plan shall include the following: (1) site plan drawing showing discharge points, drainage basins, structures, equipment, materials, and areas of known spills, leaks, or clean up activities; (2) monitoring plan for at least four storms per year (if sufficient rainfall occurs) designed to sample the entire storm event so that event mean concentrations can be developed for each discharge point. A broad range of analytical parameters shall be selected to initially include all pollutants that could be present. (3) BMP plan designed to minimize stormwater pollution. The Stormwater Management Plan is expected to change over time based on the information developed. A revised plan and report shall be submitted 18 months after the submittal of the Stormwater Management Plan, and on that date every year thereafter.

There are no special conditions.

Rationale for Permit Requirements: The underlying requirement of the permit is that all process wastewaters (refer to Permit # NEV2000515) and most stormwater runoff will be controlled in lined ponds. *Only stormwater runoff from exceptional precipitation events is authorized to be discharged, and then only after the first flush has been diverted to evaporation pond.* Based on our professional judgement, no specific limits have been imposed at this time. The reasons for this are the infrequency of the discharges, naturally low rainfall for the area, expected high flow in the receiving water at the time of a discharge and lack of storage or treatment facilities for the excess stormwater.

Monitoring of pH, chlorides, sulfates, total dissolved solids, total suspended solids, chemical oxygen demand, and total organic carbon will provide an indication of how well various materials are being managed and contained in the plant area. High concentrations of any of these pollutants will trigger an inquiry into material containment and handling practices.

Monitoring of oil and grease, iron, magnesium and pesticides and PCBs are being required because of the concern over the effects of these pollutants in compliance with the Water Quality Standards. Monitoring and reporting requirements for total phosphorous, nitrogen species and ammonia are being required because of the concern over the effects of phosphorous and nitrogen in the Las Vegas Wash.

Groundwater monitoring is required to ensure that operations of the facility do not degrade groundwater of the State.

Proposed Determination: The Division has made the tentative determination to reissue the proposed permit for a period of five (5) years.

Prepared by: Tobarak Ullah, P.E.
February 2001
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